



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Michael R. Pence
Governor

Carol S. Comer
Commissioner

March 8, 2016

Ms. Leslie Blake
U.S. EPA, Region V
77 West Jackson Boulevard
Chicago, Illinois 60604-3590
Mail Code: SR-6J

Dear Ms. Blake:

Re: Roberts Environmental Submittals
Lane Street Groundwater Contamination
Site, Elkhart, Indiana

Staff of the Indiana Department of Environmental Management (IDEM) have reviewed the two letter submittals from Roberts Environmental (Roberts) associated with the Lane Street Groundwater Contamination Superfund site – one which was titled “Public Comments to U.S. EPA August 2015 Final Remedial Investigation Report” and one titled “Results of November 2015 Ground Water Sampling Event,” both of which were dated December 28, 2015. We offer the following comments on these documents for your consideration:

“Public Comments to U.S. EPA August 2015 Final Remedial Investigation Report”

1. The submittal of “public comments” outside of a public comment period, the insistence that the Final Remedial Investigation (RI) report be withdrawn by the EPA, and the criticism of the EPA for not adequately using analytical data collected voluntarily by Roberts outside of the scope of the RI/Feasibility Study (FS) on behalf of a client whose former facility has been identified as a possible source of site contamination, indicates a lack of understanding of the RI/FS process.
2. Roberts states that EPA has taken a “results-oriented approach” in the RI that targets the former Flexsteel facility as a source of site contamination, repeatedly relies on only a subset of the available data, and consistently misrepresents, omits, or incorrectly evaluates the data. EPA and IDEM staff have consistently evaluated the available data “as is” and derived an impartial conclusion that there are likely multiple sources for the identified chlorinated volatile organic compound (cVOC) plume, which is not unexpected within an industrial park setting. When and where additional data was determined to be necessary, extensive efforts to investigate properties other than the former Flexsteel property were conducted and incorporated into the Conceptual Site Model (CSM). Though it was not used quantitatively in the RI/FS, the extensive data collected voluntarily by Roberts on behalf of Flexsteel and provided to the EPA was used qualitatively to guide and inform the EPA’s field activities and the understanding of the nature and extent of contamination at the site.



A State that Works

3. Roberts argues in their recent submittals that the contaminant transport mechanisms within the unconfined aquifer that underlies the site are "highly zonal." This theory of zonal flow is one that has been expressed by Roberts repeatedly within past submittals to EPA and IDEM, and is the key to their explanation/understanding of how high levels of VOC groundwater contamination present at relatively shallow depths (though not at "super shallow" depths) immediately down-gradient of their client's former facility is not the result of past practices at that facility, but rather solely from a source located approximately 1,000 feet up-gradient. We remain unconvinced that a sinking contaminant, such as PCE or TCE, would travel with the groundwater within a coarse, unconfined substrate as exists at the Lane Street site for such a long distance without moving significantly deeper than it exists beneath the former Flexsteel facility.
4. Roberts argues that EPA incorrectly allocates wells R-MW-10is, R-MW-11is, R-MW-14is to the "shallow" aquifer zone and ignores Roberts' characterization of these wells, their designation, and the original purpose of their installation. By Roberts' own definition, each of these wells is used to monitor the shallow aquifer, thus the "s" designation. Also, Roberts has routinely installed what they classify as "super shallow," or "ss" wells that screen only the upper 2 to 3 feet of the water table. Since the Constituents of Concern (COCs) at the site are volatile, are not associated with a recent release, and are more dense than water (a potential dense non-aqueous phase liquid (DNAPL)), screening the surficial 2 to 3 feet of the water column is inaccurate, misleading, and not representative of site conditions. This methodology is also in direct contrast to industry standards involving investigations of DNAPL contaminants. Using Roberts' own data, there is one aquifer underlying the entire area consisting of sand and gravelly sand. There have been no identified semi-confining silts or clays in the monitored portion of the aquifer, discontinuous or otherwise. The migration of the contaminant plume is solely due to the vertical migration of contaminants heavier than water (DNAPL) as they move laterally downgradient with the groundwater. This has been shown true on a second site, where Roberts is also the lead environmental consultant, located immediately east of the former Flexsteel facility (Geocel VRP Site #6070601). The well clusters for the Geocel site have been designated by Roberts as shallow (well#s), intermediate (well#i), or deep (well#d) and the contaminants and contaminant plume transport mechanisms are essentially the same, but substantially less complex compared to the Flexsteel reports with respect to zonal groundwater flow. Per Roberts' description of subsurface conditions at the Geocel site, "Soils at the Site tend to match the soil survey descriptions and generally consist of silty sands near the surface with sands and gravels at depth. Some fine sand and silt layers may be encountered at depths of approximately 30 to 45 feet below ground surface (bsg) and below 50 to 60 feet bsg. A 2.0 to 5.0 feet thick gray clay layer is present at approximately 140 feet bsg and shale bedrock is encountered at a depth of approximately 200 feet bsg. The primary aquifer layers in the Study Area consist of sand and gravel layers at depths of approximately 12 to 30 feet bsg (intermediate aquifer zone) and 40 to 50 feet bsg (deep aquifer zone)" (refer to IDEM virtual file cabinet (VFC) Document # 33246790, pages 6-7, 9).
5. Relying solely upon the data presented in Roberts' comments letter, specifically the aerial figure depicting the November 2015 groundwater data, it is evident that the facility to the north of Cooper Drive is a contributing source of groundwater contamination. This is not disputed in the RI report. However, data from monitoring wells MW-14 and MW-15 (located near the southwestern corner of the former Flexsteel facility) indicate that upgradient concentrations of TCE are lower and

downgradient concentrations are higher than the data north of Cooper Drive. Roberts argues that this is a result of a partial "slug" and refers to EPA's online calculator/model "*Transport from a Continuing or Pulse Concentration Source*"; however, Roberts did not provide this model input or output for review. Roberts also did not provide any cross-sections to support their argument. Previous cross-sections prepared by environmental consultants working with Roberts (Conestoga Rovers) were found to be lacking critical information near the former Flexsteel facility and to be misleading with overly complex definitions of multiple "zonal" water bearing units within the same unconfined aquifer.

6. Section III of Roberts' comment letter pertains to biodegradation characteristics of the groundwater contaminant plume. Roberts' presentation in this section is generally accurate, but we believe that their criticisms are primarily a matter of semantics. For example, EPA discusses in the RI report the dechlorination breakdown process of PCE to TCE and then the related daughter products (DCE and vinyl chloride). Roberts goes into great detail regarding the biodegradation and dechlorination process as an apparent argument that the EPA's RI discussions were incorrect, which is not the case. Specifically, while EPA concludes that the bacterial strain Dehalococoides (DHC) is apparently limited or not present (thus the lack of vinyl chloride and the complete breakdown of DCE), Roberts argues that EPA is incorrect in assuming there are no bacteria capable of fully degrading the parent products PCE and TCE. This conclusion is misleading and not representative of the actual discussion presented in the RI Report.

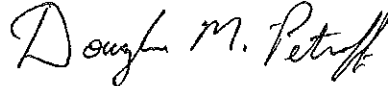
"Results of November 2015 Ground Water Sampling Event"

7. The isotopic signature approach is of limited usefulness if the compound(s) of interest is/are from different sources that are isotopically similar. Also, the manufactured chlorinated compound-containing products from the potential source facilities (including the 2601 Marina Drive and 2503 Marina Drive facilities) were not tested for comparisons with the sample results. Submittal of the isotopic signature of the manufactured compound-containing products would have made the isotopic evaluation much more useful. However, Compound Specific Isotopic Analysis (CSIA) may not be particularly useful in distinguishing plumes from multiple sources if isotopic ratios of different sources and their degradation products overlap, which is potentially the case at the Lane Street site.
8. Isotope signature data from eleven wells was submitted for the plume, which was insufficient to determine if 2601 Marina Drive (i.e., the former RE Jackson Manufacturing Site) was the only source of chlorinated compound contamination in the area. The report appears to focus on PCE contamination at 2601 Marina Drive. Additionally, the isotopic signature data mainly describes the PCE plume and the discussions mostly center upon PCE. The existence of PCE contamination originating at 2601 Marina Drive is not disputed. However, for the TCE evaluation, which is more relevant to evaluating the 2503 Marina Drive property (i.e., the former Flexsteel facility) as a possible source area, the data was very limited. For an unknown reason, only 6 of the 10 TCE detections in the 11 wells evaluated were included in the TCE figure (Figure 5) prepared by Pace. An attempt by IDEM Chemistry Science Services staff to reproduce Figure 5 (using all ten data points) suggests that there could be more than one source of TCE contamination at the site.

9. Six of the eleven wells selected for use in the CSIA evaluation are known to be upgradient of the former Flexsteel facility, so the source of that contamination is not in question, and therefore the presentation is biased. Samples collected near or directly downgradient of the former Flexsteel property are also biased in the intermediate zone (3 of the 4 wells are screened at 21 ft-bgs or greater), rather than the shallower depth interval wells (e.g., wells E-MW-06s, MW-10iu, MW-11s, MW-12s, MW-14is, MW-15is) that would be more indicative of the contaminants in question rather than contaminants that have migrated vertically downward beneath the former Flexsteel facility from an upgradient source. When looking at the linear regression plot (Pace report, Figure 6), those wells near the former Flexsteel facility don't fit the straight line test. This suggests the results are not as straight-forward as they are presented in the conclusions of the analysis.
10. The first conclusion provided in the summary section of the Pace letter that presents the findings of the CSIA analysis states: "This aquifer is highly heterogeneous and has strong preferential flow rates." This conclusion appears to be well beyond the scope of Pace's analytical analysis.

Thank you for the opportunity to provide comments on the Roberts' submittals. If you have any questions regarding these comments or would like to discuss them further, please do not hesitate to contact me at (317) 234-7179.

Sincerely,



Douglas M. Petroff, Project Manager
Federal Programs Section
Office of Land Quality

DMP:tr

cc: Rex Osborn, IDEM